What is claimed is:

1. A method, comprising:

providing high speed data services and voice services in a transmission system employing two binary, one quaternary modulation/demodulation, said transmission system including a remote terminal providing a high-speed data service, a plurality of user terminals including data service terminals and voice service terminals, and a multirate digital subscriber line terminal connected to said remote terminal through a twisted pair line, said multirate digital subscriber line terminal being connected to said user terminals, said voice services including upstream and downstream voice services;

during said downstream voice service, assembling, in said remote terminal, a first high bit rate digital subscriber line frame by including signaling signals for said voice service and signal processing mode information in a user-defined interval of said first high bit rate digital subscriber line frame, and transmitting said assembled first high bit rate digital subscriber line frame to said multirate digital subscriber line terminal through said twisted pair line; and

during said upstream voice service, receiving, in said remote terminal, a second high bit rate digital subscriber line frame and transmitting signaling signals in said received second high bit rate digital subscriber line frame to an exchange.

2. The method of claim 1, said user-defined interval being an overhead interval of said first high bit rate digital subscriber line frame.

3. The method of claim 2, further comprising:

connecting said user terminals to said multirate digital subscriber line terminal;

connecting said multirate digital subscriber line terminal to said twisted pair line;

connecting said twisted pair line to said remote terminal;

connecting said remote terminal to a central office; and

connecting said central office to said exchange.

4. The method of claim 3, further comprising transmitting information between said remote terminal and said central office over an E1/T1 trunk.

5. The method of claim 4, said downstream voice service corresponding to a telephone call to at least one of said voice service terminals.

6. The method of claim 4, said upstream voice service corresponding to a telephone call from at least one of said voice service terminals.

7. The method of claim 1, said user-defined interval including voice port activation order information, call service interruption information, and error check information.

8. The method of claim 7, further comprising:

connecting said user terminals to said multirate digital subscriber line terminal;

connecting said multirate digital subscriber line terminal to said twisted pair line;

connecting said twisted pair line to said remote terminal;

connecting said remote terminal to a central office; and

connecting said central office to said exchange.

9. The method of claim 8, further comprising transmitting information between said remote terminal and said central office over an E1/T1 trunk.

10. The method of claim 9, said downstream voice service corresponding to a telephone call to at least one of said voice service terminals.

11. The method of claim 10, said upstream voice service corresponding to a telephone call from at least one of said voice service terminals.

12. The method of claim 1, further comprising:

connecting said user terminals to said multirate digital subscriber line terminal;

connecting said multirate digital subscriber line terminal to said twisted pair line;

connecting said twisted pair line to said remote terminal;

connecting said remote terminal to a central office; and

connecting said central office to said exchange.

13. The method of claim 12, further comprising transmitting information between said remote terminal and said central office over an E1/T1 trunk.

14. The method of claim 1, said downstream voice service corresponding to a telephone call to at least one of said voice service terminals.

15. The method of claim 1, said upstream voice service corresponding to a telephone call from at least one of said voice service terminals.

16. A method, comprising:

forming a transmission system providing high speed data services and voice services, said transmission system including a multirate digital subscriber line terminal, a plurality of data terminals and voice terminals, and a remote terminal providing said high speed data services, said voice terminals including a first voice terminal;

receiving a first high bit rate digital subscriber line frame in said multirate digital subscriber line terminal during a downstream voice service, said first high bit rate digital subscriber line frame being assembled to include signaling signals for said voice service and signal processing mode information in a user-defined interval of said first high bit rate digital subscriber line frame, said first high bit rate digital subscriber line frame being assembled by said remote terminal;

coupling said signaling signals to said first voice terminal;

when a voice service response and request is received from said first voice terminal, assembling a second high bit rate digital subscriber line frame by including signaling signals for said voice service and signal processing mode information in a user-defined interval of said second high bit rate digital subscriber line frame; and

transmitting said second high bit rate digital subscriber line frame.

17. The method of claim 16, further comprising employing two binary, one quarternary modulation/demodulation in said transmission system.

18. The method of claim 17, said plurality of data terminals and voice terminals corresponding to a plurality of user terminals.

19. The method of claim 17, said multirate digital subscriber line terminal being connected to said plurality of data terminals and voice terminals.

20. The method of claim 19, further comprising:

connecting said multirate digital subscriber line terminal to a remote terminal through a twisted pair line, said assembling of said first high bit rate digital subscriber line frame being performed by said remote terminal; and

transmitting said first high bit rate digital subscriber line frame from said remote terminal to said multirate digital subscriber line terminal.

21. The method of claim 20, further comprising:

said assembling of said second high bit rate digital subscriber line frame being performed by said multirate digital subscriber line terminal; and

transmitting said second high bit rate digital subscriber line frame from said multirate digital subscriber line terminal to said remote terminal through said twisted pair line.

22. The method of claim 21, further comprising:

connecting said remote terminal to a central office; and

connecting said central office to an exchange.

23. The method of claim 22, further comprising transmitting information between said remote terminal and said central office over an E1/T1 trunk.

24. The method of claim 23, said downstream voice service corresponding to a telephone call to said first voice terminal.

25. The method of claim 24, said transmitting of said second high bit rate digital subscriber line frame from said multirate digital subscriber line terminal to said remote terminal being a part of an upstream voice service.

26. The method of claim 16, said plurality of data terminals and voice terminals corresponding to a plurality of user terminals.

27. The method of claim 16, said multirate digital subscriber line terminal being connected to said plurality of data terminals and voice terminals.

28. The method of claim 16, further comprising:

connecting said multirate digital subscriber line terminal to a remote terminal through a twisted pair line, said assembling of said first high bit rate digital subscriber line frame being performed by said remote terminal; and

transmitting said first high bit rate digital subscriber line frame from said remote terminal to said multirate digital subscriber line terminal.

29. The method of claim 16, further comprising:

said assembling of said second high bit rate digital subscriber line frame being performed by said multirate digital subscriber line terminal; and

transmitting said second high bit rate digital subscriber line frame from said multirate digital subscriber line terminal to a remote terminal through a twisted pair line.

30. The method of claim 29, further comprising:

connecting said remote terminal to a central office; and

connecting said central office to an exchange.

31. The method of claim 30, further comprising connecting said remote terminal and said central office with an E1/T1 trunk.

32. The method of claim 16, said downstream voice service corresponding to a telephone call to said first voice terminal.

33. The method of claim 16, a telephone call from said first voice terminal corresponding to an upstream voice service.

34. The method of claim 16, said transmitting of said second high bit rate digital subscriber line frame from said multirate digital subscriber line terminal to said remote terminal being a part of an upstream voice service.

35. The method of claim 16, said user-defined interval of said first and second high bit rate digital subscriber line frames being an overhead interval of said frames.

36. The method of claim 35, further comprising employing two binary, one quarternary modulation/demodulation in said transmission system.

37. The method of claim 35, said plurality of data terminals and voice terminals corresponding to a plurality of user terminals.

38. The method of claim 35, further comprising:

connecting said multirate digital subscriber line terminal to a remote terminal through a twisted pair line, said assembling of said first high bit rate digital subscriber line frame being performed by said remote terminal; and

transmitting said first high bit rate digital subscriber line frame from said remote terminal to said multirate digital subscriber line terminal.

39. The method of claim 35, said downstream voice service corresponding to a telephone call to said first voice terminal.

40. The method of claim 35, said transmitting of said second high bit rate digital subscriber line frame from said multirate digital subscriber line terminal to said remote terminal being a part of an upstream voice service.

41. The method of claim 36, said multirate digital subscriber line terminal being connected to said plurality of data terminals and voice terminals.

42. The method of claim 36, further comprising:

said assembling of said second high bit rate digital subscriber line frame being performed by said multirate digital subscriber line terminal; and

transmitting said second high bit rate digital subscriber line frame from said multirate digital subscriber line terminal to a remote terminal through a twisted pair line.

43. The method of claim 42, further comprising:

connecting said remote terminal to a central office; and

connecting said central office to an exchange.

44. The method of claim 43, further comprising transmitting information between said remote terminal and said central office through an E1/T1 trunk.

45. The method of claim 36, a telephone call from said first voice terminal corresponding to an upstream voice service.

46. The method of claim 16, said user-defined interval of said first and second high bit rate digital subscriber line frames including voice port activation order information, call service interruption information, and error check information.

47. The method of claim 46, said multirate digital subscriber line terminal being connected to said plurality of data terminals and voice terminals.

48. The method of claim 46, further comprising:

said assembling of said second high bit rate digital subscriber line frame being performed by said multirate digital subscriber line terminal; and

transmitting said second high bit rate digital subscriber line frame from said multirate digital subscriber line terminal to a remote terminal through a twisted pair line.

49. The method of claim 48, further comprising:

connecting said remote terminal to a central office; and

connecting said central office to an exchange.

50. The method of claim 49, further comprising connecting said remote terminal and said central office with an E1/T1 trunk.

51. The method of claim 46, a telephone call from said first voice terminal corresponding to an upstream voice service.

52. The method of claim 46, further comprising employing two binary, one quarternary modulation/demodulation in said transmission system.

53. The method of claim 52, said plurality of data terminals and voice terminals corresponding to a plurality of user terminals.

54. The method of claim 52, further comprising:

connecting said multirate digital subscriber line terminal to a remote terminal through a twisted pair line, said assembling of said first high bit rate digital subscriber line frame being performed by said remote terminal; and

transmitting said first high bit rate digital subscriber line frame from said remote terminal to said multirate digital subscriber line terminal.

55. The method of claim 52, said downstream voice service corresponding to a telephone call to said first voice terminal.

56. The method of claim 52, said transmitting of said second high bit rate digital subscriber line frame from said multirate digital subscriber line terminal to said remote terminal being a part of an upstream voice service.

57. An apparatus, comprising:

a transmission system employing two binary, one quaternary modulation/demodulation and providing high speed data services and voice services, said transmission system comprising:

a remote terminal providing a high-speed data service;

a plurality of user terminals including data service terminals and voice service terminals;

a multirate digital subscriber line terminal being connected to said remote terminal through a twisted pair line, and being connected to said user terminals;

when said voice services correspond to a downstream voice service, said remote terminal assembling a first high bit rate digital subscriber line frame by including signaling signals for said downstream voice service and signal processing mode information in a user-defined interval of said first high bit rate digital subscriber line frame, and said remote terminal transmitting said assembled first high bit rate digital subscriber line frame to said multirate digital subscriber line terminal through said twisted pair line; and

when said voice services correspond to an upstream voice service, said remote terminal receiving a second high bit rate digital subscriber line frame and transmitting signaling signals in said received second high bit rate digital subscriber line frame to an exchange.

58. The apparatus of claim 57, said user-defined interval being an overhead interval of said first high bit rate digital subscriber line frame.

59. The apparatus of claim 57, said user-defined interval including voice port activation order information, call service interruption information, and error check information.

60. The apparatus of claim 58, said first high bit rate digital subscriber line frame further comprising:

a sync signal field, a plurality of time slot fields, and said overhead interval;

said overhead interval corresponding to a high bit rate digital subscriber line overhead bit field including an embedded operation communication field and a z-bit field; and

said z-bit field being defined by a user.

61. The apparatus of claim 60, said z-bit field being comprised of 8 octets.

62. The apparatus of claim 60, said transmission system utilizing at least one mode selected from among a universal digital line circuit mode implementing signal processing by hardware and an integrated digital line circuit mode implementing signal processing by software.